

10.2

GIVET : $P_{2M} = 1,5 \text{ kW}$ $n_2 = 2870 \text{ RPM}$ \Rightarrow $n_1 = 3000 \text{ RPM}$

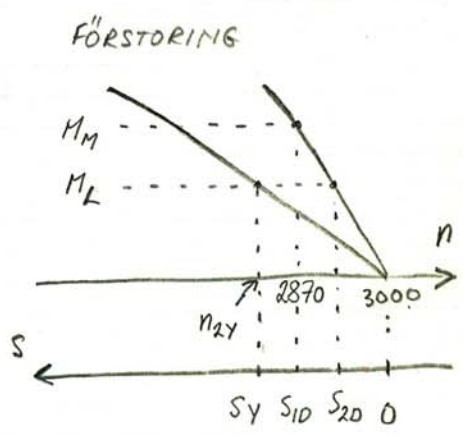
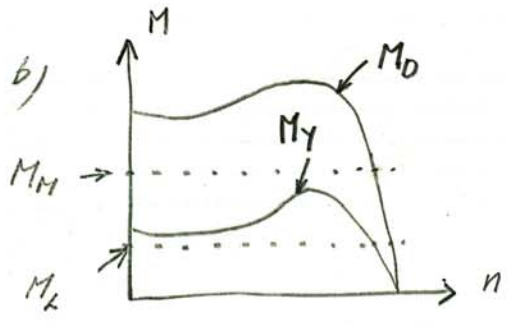
BELASNINGENS MOMENT $M_L = 0,45 M_M$

$\Rightarrow P_L \approx 0,45 \cdot P_{2M} \Rightarrow P_L \approx 675 \text{ W}$

$m_{ST} = 2,2$ $J_m = 0,009 \text{ kgm}^2$ $J_L = 0,09 \text{ kgm}^2$

$J_{TOT} = J_m + J_L \Rightarrow J_{TOT} = 0,099 \text{ kgm}^2$

a)
$$t_{ST} = \frac{0,11 \cdot 0,099}{2,2 \cdot 1,5 - 0,675} \left(\frac{2870}{100} \right)^2 \text{ s} = 3,4 \text{ s}$$



$s_Y = \frac{n_1 - n_{2Y}}{n_1} \Rightarrow n_{2Y} = n_1 (1 - s_Y) \dots (1)$

$M_M = k \cdot U^2 \cdot s_{1D}$ DÄR $s_{1D} = \frac{n_1 - n_2}{n_1} \Rightarrow s_{1D} = 4,33 \%$

$M_L = k \cdot U^2 \cdot s_{2D}$

$\Rightarrow \frac{M_M}{M_L} = \frac{s_{1D}}{s_{2D}} \Rightarrow s_{2D} = 1,905 \%$

\uparrow
 $= 0,45 M_M$

$$\left. \begin{aligned} M_L &= k \cdot U^2 \cdot S_{2D} \quad (\text{D-KOPPLING}) \\ M_L &= k \cdot \left(\frac{U}{\sqrt{3}}\right)^2 \cdot S_Y \quad (\text{Y-KOPPLING}) \end{aligned} \right\} \Rightarrow$$

$$S_Y = 3 \cdot S_{2D} \Rightarrow S_Y = 5,71\%$$

↑
1,905%

$$\text{INS 1 (1)} \Rightarrow n_{2Y} = 3000 (1 - 0,0571) \approx 2824 \text{ RPM}$$

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c)

$$t_{ST} = \frac{0,11 \cdot 0,099}{\frac{2,2 \cdot 1,5}{3} - 0,675} \left(\frac{2824}{100}\right)^2 \text{ s} = 20 \text{ s}$$

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EFFERTEN 3 GGR
MINORE VID Y-
KOPPLING.